THE

SCIENTIFIC

AMERICAN

HAND BOOK

MUNN & CO. NEW YORK.

SCIENTIFIC AMERICAN ESTABLISHMENT.

THIRTY years ago the present proprietors of THE SCIENTIFIC AMERICAN assumed its publication, and under their care it has become one of the lights of the world. Its *bona fide* weekly edition is nearly 50,000 copies. It is the *cheapest* and *best* illustrated weekly paper published. Every number contains from 10 to 15 engravings of New Machinery, Novel Inventions, Bridges, Engineering works, Architecture, improved Farm Implements, and various useful improvements. THE SCIENTIFIC AMERICAN *stands foremost* among industrial papers, having *a larger circulation than any other paper of its kind in the world.* The most eminent Scientists and the most talented American Engineers and Mechanics are writers for THE SCIENTIFIC AMERICAN. A year's numbers contain 832 pages and several hundred engravings. Thou-

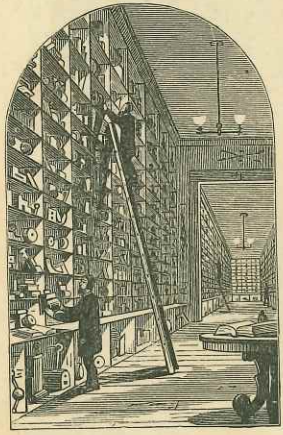
sands of volumes are preserved for binding and reference. The practical recipes are well worth ten times the subscription price. Terms, $3.20 a year, sent by mail from our Office, post-paid. Specimen copies, 10 cents. THE SCIENTIFIC AMERICAN can be had at *all news stores throughout the United States*. Buy it. Try it. You will like it. To persons who procure for us subscribers for THE SCIENTIFIC AMERICAN, we offer certain reductions and elegant premiums, and also furnish, on application, Prospectus and an elegant Name List. One of these premiums is a magnificent steel-plate engraving, three feet long and two feet high, entitled, "*Men of Progress*," representing, with admirable grouping and life-like portraits, the most distinguished American Inventors. Price, $9. Another premium is the "*Science Record*," a handsome octavo book of 600 pages, illustrated. Published annually. Price, $2.50; elegantly bound. It is a compendium of the new discoveries and most interesting facts made public, during the year, in all the principal branches of science, embracing Chemistry, Metallurgy, Engineering, Mechanics, Technology, Agriculture, Domestic Economy, Horticulture, Botany, Pisciculture. Materia Medica, Natural History, Meteorology, Geography, Geology, Mineralogy, Astronomy. Another premium is THE SCIENTIFIC AMERICAN SUPPLEMENT, a splendid work, issued weekly, uniform in size with THE SCIENTIFIC AMERICAN, but separately paged.

EDITORIAL ROOMS.

The SCIENTIFIC AMERICAN SUPPLEMENT contains *working drawings* of Engineering Works of all descriptions, and elaborate papers pertaining to every branch of Science, by the most eminent writers. Price, $5.00 a year. Send 10 cents for a Specimen Copy. Address MUNN & Co., 37 Park Row, New-York.

The engraving on page 4 gives an idea of the spacious proportions of our main office. It is here that advertisements and subscriptions for THE SCIENTIFIC AMERICAN are received; and here are the head-quarters of our world-renowned SCIENTIFIC AMERICAN *Patent Agency*.

All models are ticketed with the names of their owners, and carefully stored in our private model rooms, where no one, except our confidential assistants in charge, is permitted to enter.



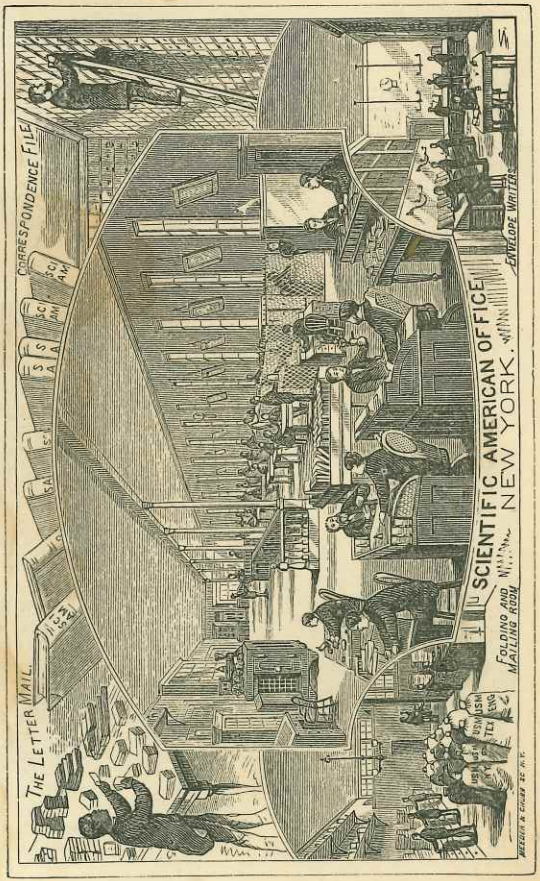
THE MODEL ROOM.

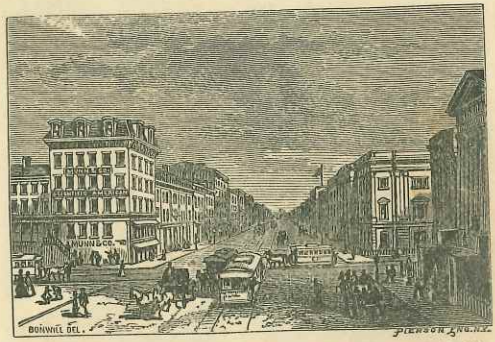
ALL correspondence relating to patents is carefully preserved for a given time in large fire-proof safes of extra thickness.

All drawings of pending patent cases are likewise preserved in similar safes, specially made for us for this purpose.

The utmost care is taken to guard the privacy and preserve the safety of the many thousands of inchoate inventions committed to our care; and we may here mention with satisfaction the fact that during our long professional career of over thirty years not one of our clients has ever found his confidence in us misplaced.

In carrying on our extensive Patent Business we aim to conduct it in the most expeditious and systematic manner.





BRANCH OFFICE OF THE SCIENTIFIC AMERICAN, WASHINGTON.

We are assisted by the most experienced Examiners and specification writers, many of whom have been officers in the Patent Office. The finest mechanical draughtsmen in the country prepare our drawings.

We have a large office in Washington located at the corner of F and 7th sts., diagonally across the street from the Patent Office as shown in the engraving.

The first building on the right is the U.S. Patent Office; the next on the same side is the General Post Office; on the left stands the Scientific American Office. Our location is especially convenient for the transaction of business. We employ at Washington a corps of trained assistants, part of whom make it their exclusive duty to watch and assist the progress of our cases before the Patent Office.

Another division of our helpers in Washington devote themselves to the Preliminary Examination of Inventions—a matter that is explained more fully on page 11.

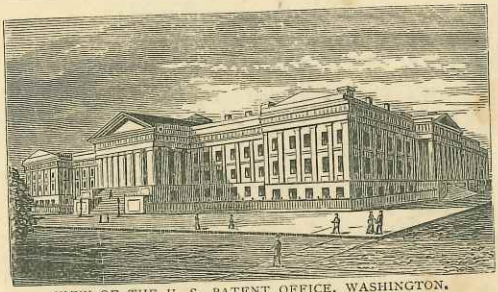
It is to the systematic method and abundant supply of trained helpers, personally supervised by the proprietors, that the long-continued prosperity and remarkable success of the SCIENTIFIC AMERICAN Patent Agency is due.

THE TYPE ROOM.

The remaining divisions of our main establishment in New-York are the type room, where we employ a corps of young women to set our types; and the editorial rooms (engraving, page 2), where the interesting matter that fills the pages of the SCIENTIFIC AMERICAN is prepared.

The printing of THE SCIENTIFIC AMERICAN is done in a neighboring building, where several large steam presses are kept in constant motion, day and night, during the greater part of each week, to work off our large edition. After leaving the press the sheets pass through a folding machine, are by machinery then trimmed, and then enveloped for the mail.

The writing of the envelopes requires a considerable staff of writers, and great care in the book-keeping of so large a subscription list as ours. The envelope room and other minor divisions of our establishment are illustrated on the borders of the engraving on page 4.



VIEW OF THE U. S. PATENT OFFICE, WASHINGTON.

HOW TO GET RICH.

HEALTH, contentment and a clear conscience, are three essentials upon which human happiness depends; and the majority of people seem to believe that the speediest way of attaining these virtues is by acquiring wealth. At any rate the idea of "Getting Rich" is interesting to everybody, and we have therefore concluded to print this little book upon the subject, which, without pretense of originality, will offer many sure and practical directions for success. Dr. Johnson affirms that "Men are seldom more innocently employed than when they are making money," and this is assuredly true in respect to the methods we here present.

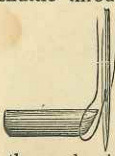
Riches are commonly acquired by manual strength or dexterity, by the investment of capital, or through wealthy relatives. But how can the multitude, who lack every one of these requisites, ever hope to grow rich?

This book will answer that question. The suggestions we here offer apply to everybody, without distinction of race or color, to women and minors, to foreigners as well as citizens. No preliminary preparations are involved. All that is necessary is *to think;* not profoundly, but in a simple, easy way, which every one can do.

A standing reward for new and useful thoughts is offered by the Government of the United States, payable on demand, IN PATENTS, which are of greater or less value according to the usefulness and simplicity of the thoughts.

Experience shows that people get rich more quickly from simple ideas than from deep and complicated cogita-

tions. The simple thought of Elias Howe, of passing a shuttle through a threaded needle, formed the sewing-machine; and his patent for the little idea brought him princely riches. To govern the slack of Howe's thread, Isaac Singer added a bit of wire. This with a few other little thoughts made him vastly wealthy. He recently died leaving thirteen millions of dollars. These persons were originally obscure and in poverty. Thousands of others who have attained wealth from small inventions might be mentioned.



THE RICHNESS OF PATENTS.

SUCH is the demand in this country for new ideas, and so great is the value of property in patents for improvements, that, according to an estimate made by the Commissioner of Patents, from six to seven eighths of the entire manufacturing capital of the United States, or upward of six thousand millions of dollars, probably, is based upon patents, either directly or indirectly. It is supposed by some persons that the majority of patents are without value; but this is a mistake. The truth probably is, that from six to seven eighths of all patents prove remunerative; which is the reason why so many are applied for, and so many millions of capital invested in their working.

In an official report a Chief Examiner of the Patent Office says: "A patent, if it is worth any thing, when properly managed, is worth and can easily be sold for from ten to fifty thousand dollars. These remarks only apply to patents of minor or ordinary value. They do not include such as the telegraph, the planing-machine, and the rubber patents, which are worth millions each. A few cases of the first kind will better illustrate my meaning.

"A man obtained a patent for a slight improvement in straw-cutters, took a model of his invention through the Western States, and after a tour of eight months, returned with forty thousand dollars in cash, or its equivalent.

"Another inventor obtained extension of a patent for a machine to thresh and clean grain, and sold it in about fifteen months, for sixty thousand dollars. A third obtained a patent for a printer's ink, and refused fifty thousand dollars, and finally sold it for about sixty thousand dollars.

"These are ordinary cases of minor invention, embracing no very considerable inventive powers, and of which hundreds go out from the Patent Office every year. Experience shows that the most profitable patents are those which contain very little real invention, and are to a superficial observer of little value."

HOW TO INVENT.

IN order to succeed, a new invention must be superior to any thing that has preceded it, and must be sold at a price that will enable it to be brought into general use.

People cannot afford to throw away old implements unless the new ones are sufficiently superior to make up for the loss. Let inventors produce a good article, at a moderate price, and they will be sure of success.

The readiest way to invent is to *keep thinking;* and to thought add *practical experiments*. Book knowledge is not essential. Examine things about you, note how they are made, and study how to improve them. Keep your eyes and ears open, ask questions, be a continual seeker after useful information. Those who do this, soon acquire a knowledge of the sciences, and insensibly become educated.

To avoid waste of time in reproducing old devices, the inventor should be well posted in regard to inventions that have already been made. He should also be informed as to the particular classes of devices in which improvements are most urgently demanded. For this purpose, an attentive study of THE SCIENTIFIC AMERICAN will be almost indispensable. This splendid newspaper is published weekly, and furnishes the latest information concerning the progress of new discovery, with elegant engravings. $3.20 a year. MUNN & Co., 37 Park Row, publishers. Send 10 cents for a specimen copy.

THE FIRST INQUIRY.

To one who has made an invention or discovery the first inquiry that naturally suggests itself is, "Can I obtain a Patent?" If so, "How shall I proceed?" Whom shall I consult? How much will it cost? The direct way to settle these queries is to write to us (Munn & Co.) describing the supposed invention. Send us also a small sketch. Never mind your inexperience. Nicety of writing or drawing is not essential; all we need is to get your idea.

Do not use pale ink. Be brief. Send stamps for postage. We will immediately answer and inform you whether or not your improvement is probably patentable; and if so, give you the necessary instructions for further procedure. For this advice we make *no charge*. We take pleasure in receiving and answering such letters. All who have made inventions and desire to consult with us in regard to obtaining patents are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by letter. In all cases, they may expect from us a careful consideration of their plans, an honest opinion, and a prompt reply.

During our long experience of over thirty years in the patent business we have examined and taken patents for many thousands of improvements, embracing every class of invention; and in the majority of cases, we can determine at a glance, whether or not the invention presented is probably new and patentable. If we find that it is *not* new, we so advise our correspondent, who, without expense, is thus saved all further trouble. If we are satisfied that the invention *is patentable*, either wholly or partly, we so inform the party, and give him the information necessary to apply for a Patent or file a Caveat.

WE frequently receive letters containing strings of questions, relative to all sorts of things, without any fee, nor even stamps for postage. Many of these correspondents close their letters with the comforting assurance that "I would remit for your trouble, but do not know how much to send." To relieve the consciences of all such doubters, we would recommend them to send a dollar or more, according to the value to them of the desired information. If the latter is of no value, they ought not to trouble us.

To certain other classes of inquirers the following hints may be useful: The best washing-machines, the best brick-machines, *the best of every thing in the mechanical line*, is advertised and illustrated in THE SCIENTIFIC AMERICAN, and the address of the parties having such things on sale is there given. If you are not a subscriber to THE SCIENTIFIC AMERICAN, you should enroll your name at once, for which send $3.20. You will sooner or later find in its pages answers to all your inquiries, besides an immense amount of other useful information.

THE PRELIMINARY EXAMINATION.

IF we are not entirely satisfied that our correspondent's idea is patentable we advise him to let us make a Preliminary Examination. This consists of a *special search*, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to ascertain whether, among all the thousands of patents and models there stored, any invention can be found which will prevent the grant of a patent. On the completion of this special search, we send a *written report* to the party concerned, with suitable advice; and sometimes, when necessary, we give sketches of one or more devices that resemble our client's. Our charge for this service is five dollars.

Correspondents may, if they prefer, furnish models, or photos, for the Preliminary Examination.

In offering to make this examination for five dollars, we hope that correspondents will bear in mind that we here refer only to the question of the *patentability* of the invention, not to infringements or other questions.

Where preliminary examination is wanted upon more than one invention, $5 for each must be sent; as each device requires a separate search. All that we need for this examination is a brief description and sketch sufficient to enable us to get an idea of the invention.

Address MUNN & Co., 37 Park Row, N. Y.

What security have I that my communications to Munn & Co. will be faithfully guarded and remain confidential?

Answer.—You have none except our well-known integrity in this respect, based upon a most extensive practice of thirty years' standing. Our clients are numbered by hundreds of thousands. They are to be found in every town and city of the Union. Please to make inquiry about us. Such a thing as the betrayal of a client's interests, when committed to our professional care, never has occurred, and is not likely to occur. All business and communications intrusted to us are kept *secret and confidential.*

MUNN & Co., 37 Park Row, New-York.

HOW TO APPLY FOR A PATENT.

If the invention is simple the whole cost to apply for a patent is $40,* and when allowed, $20 more are payable, making $60 in all.† The applicant has six months in which to pay the last installment of $20, after the patent is allowed. If the invention is complicated, the costs are somewhat increased, because the preparation of the drawings and specifications involves extra labor.

Under the Patent laws, all persons, citizens and foreigners, pay the same official fees. There is no distinction as to nationality. Patents are also granted to women and minors; also to the executors or administrators of deceased inventors. The patent is granted for 17 years, during which time the patentee enjoys the full and exclusive right to make, use, and sell the invention, and grant rights, licenses or privileges.

In order to apply for a patent, all that is necessary is to send a model of the invention to Munn & Co., by express, prepaid, with an explanation of the merits and working of the invention. Never mind spelling or grammar, but be very particular to give your ideas in full about the invention. Describe its intended working, and mention all the advantages that you can think of. This statement is always of assistance to us in preparing the specification and drawings. Also remit $15 on account, and give the inventor's full name, middle name included. We will then prepare the drawings and specification, and send the latter to you, with full instructions, for examination and signature. See page 17 about model.

Do not put the money in the box with the model, for it is liable to be stolen. Remit by express, postal order, check, or draft.

If any of our readers receive more than one copy of this little book they will do us a favor by handing the extra copy to some friend or neighbor who is interested in things mechanical or scientific.

*If a patent is not granted, the applicant loses this cost of making the application.

†Of this sum the first Government fee is $15, our, Munn & Co's, charges, $25, and the second Government fee is $20, making $60 in all. When an appeal is required, there are additional expenses. See page 14.

HOW WE DO THE BUSINESS.

On the reception of the model and first payment of $15, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready, we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our charges for preparing the case are then due and will be called for. On return of the papers to us, the case will be presented to the Patent Office, and as soon as the patent is *allowed*, the applicant will be notified to remit the last installment of the Government fee, namely, $20, and the patent will then be printed and issued.

In addition to the above service, our patron receives, gratis, a notice in the Scientific American descriptive of the merits of the new patent, giving also his name and address. *We print and distribute about fifty thousand copies of this notice*, without a penny of cost to our client. This publication goes before *three hundred thousand readers*, and often proves to be of immense value to the patentee in advertising his new invention. Were he to do this printing himself, it would cost him, by the most economical method, say on the backs of postal-cards, over five hundred dollars. The printing alone would cost him fifty dollars, and the cards ten dollars per thousand.

No Patent Agency in the world does so much for its clients as ours; and for that reason none so fully commands public confidence or enjoys so great a share of patronage.

Persons who do business with us will be notified of the progress of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can be done as well by correspondence.

The average time required to procure a patent is six weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of the officials, the period is sometimes extended to two or three months, and even more. We make a special point to forward our cases *as rapidly as possible.*

We have an extensive Branch House in Washington, (see engraving, page 5) employing a corps of skilled assistants, and we make it our special duty to watch over the

cases of our clients while they are before the Patent Office. If the examining officer objects to the grant of the claims, or gives references, or requires amendments, we examine the references, and make the amendments, if we deem them proper, so as to secure the allowance of our client's patent as soon as possible. We make no additional charge for these services.

APPEALS.

When the examiner refuses to allow a patent, and finally rejects the case, we report the fact to our client, and inform him as to the probabilities of obtaining a reversal of the examiner's decision by appeal.

Three appeals are allowed: namely, to the Examiners in Chief, to the Commissioner of Patents, to the Supreme Court of the District. The fees and expenses of these appeals are small.

GOING TO WASHINGTON.

SOME inventors suppose, very naturally, that if personally present in Washington, they can get their cases through more expeditiously, or command other important facilities. But this is not so. The journey to Washington is usually a mere waste of time and money; but, notwithstanding, some persons prefer to go. A good agent must be employed after the inventor gets there. No one can possibly have facilities or influence superior to our own; a very large portion of the entire business of the Patent Office passes through our hands; and we have an office in Washington, charged with the especial duty of watching over and pressing forward the interests of our clients.

The Patent Office does not prepare patent papers, or make models. These must be provided by the applicant or his attorney, according to law, otherwise his claim will not be considered.

The law especially requires that all documents deposited in the Patent Office shall be correctly, legibly, and clearly written, and that the drawings shall be of a specified size, and executed in an artistic manner.

Persons who visit Washington in person, can have all their patent business promptly attended to, by calling at MUNN & CO'S BRANCH SCIENTIFIC AMERICAN OFFICE, corner of 7th and F streets, opposite the Patent Office. (See engraving on page 5.)

CAVEATS.

THE filing of a Caveat is oftentimes of great importance, as it may be quickly done, and affords a limited but *immediate protection*. The filing of a Caveat prevents, during its existence, the issue of a patent, without the knowledge of the Caveator, to any other person for a similar device. Should a competitor apply for a patent, the Caveator is notified, and called upon to file in his application for a patent.

A Caveat consists of a Specification, Drawing, Oath, and Petition. To be of any value, these papers should be carefully drawn up, and the official rules scrupulously complied with. No model is required. Our facilities enable us to prepare Caveat-papers with great dispatch. When specially desired, we can have them ready to send to the applicant, for signature and affidavit, by return mail, or at an hour's notice. The whole expense to file a Caveat is generally $25, of which the official fee is $10, and we generally charge $15 to prepare the papers and attend to the business. On filing the Caveat in Washington the Patent Office issues an Official Certificate thereof, which we forward to the applicant. The existence of a Caveat is an evidence of priority of invention. A Caveat runs for a year, and can be extended from year to year.

Caveats can only be filed by citizens of the United States, and aliens who have resided here one year and have declared their intention to become citizens.

To enable us to prepare Caveat papers, all that we need is a sketch, drawing, or photograph, and description of the invention, with which remit fees as above. Model not required. All Caveats are secret. No one can see or obtain a copy of a Caveat without the order of the Caveator. The filing of a Caveat does not prevent other persons from making, using, or selling the invention. No exclusive right of sale is secured under a Caveat. It is only the Patent that secures such a right. The filing of a Caveat is not an evidence that a Patent will be granted. The Government makes no search as to novelty when a Caveat is filed. No portion of the money paid for a Caveat applies toward the Patent.

No one should sign or make affidavit to blank Caveat or Patent papers.

DESIGN PATENTS.

DESIGN Patents relate chiefly to ornamental productions, and are granted to any person, whether citizen or alien, who has produced any new and original design for a manufacture, bust, statue, alto-relievo, or bass-relief; any new and original design for the printing of woolen, silk, cotton, or other fabrics; any new and original impression, ornament, pattern, print, or picture, to be placed on or worked into any article; or any new and original shape of any article of manufacture.

Those who desire to apply for Design Patents are requested to communicate with Munn & Co., No. 37 Park Row, New-York. City residents by calling at our office can have all the business promptly attended to.

The expenses to apply for design patents are as follows:

Patent for three and a half years, whole expense, $25.

Patent for seven years, whole expense, $30.

Patent for fourteen years, whole expense, $45.

TRADE-MARKS.

Any person or firm domiciled in the United States, lawfully possessing a trade-mark, no matter how long it has been in use, or intending to adopt any new trade-mark, may obtain protection therefor by Registration, by paying the fees, and complying with the official rules. The whole expense is $40, of which the Government fees are $25, and our charges $15, for preparing the papers and attending to the business. Twelve prints of the Trade-Mark are required, also declaration, petition and affidavit. Address, for further particulars, MUNN & CO., 37 Park Row, New-York.

LABELS AND PRINTS.

Labels and prints of all kinds, for bottles, boxes, and packages, for medicines, compounds, and every description of merchandise, may now be patented by registration in the Patent Office, for 28 years, with privilege of renewal.

Send to MUNN & CO., 37 Park Row, New York, full name, and *six copies* of the label or print, together with sixteen dollars, which covers all expenses. The whole business only occupies a few days' time.

COPYRIGHTS.

ANY citizen or resident of the United States may obtain a copyright who is the author, inventor, designer, or proprietor of any book, map, chart, dramatic or musical composition, engraving, cut, print, or photograph or negative thereof, or of a painting, drawing, chromo, statue, statuary, and of models and designs, intended to be perfected as works of the fine arts.

Copyrights are granted for 28 years, and may be renewed for 14 additional years. Expense, five dollars.

In order to obtain a copyright all that is necessary is to send to MUNN & CO., 37 Park Row, New-York, the intended *title* of the book, print, photograph, or article, and $5.

ABOUT MODELS.

WHOEVER applies for a patent is by law required to furnish a model, in all cases where the invention can be illustrated, or partly illustrated, by a model. The model must not exceed twelve inches in any of its dimensions; it should be neatly made, of substantial material; the name of the inventor should be painted or attached upon it by a card. Where the invention consists of an improvement on some known machine, the model only needs to show the working of the improved parts; the whole machine need not be shown in the model. The model may be made partly of wood and partly of metal, or wholly of either.

When the invention consists of a new article of manufacture or a new composition, mixture, or medicine, samples must be furnished, with a statement of the exact proportions and ingredients used.

The owner of a patent has the exclusive right to make, sell, and use the invention, and to grant rights, permits or licenses to others to make, sell, and use the same, for 17 years. After that the invention becomes public property. By the present law, patents cannot be extended.

All good inventions are worth patenting, even if their use should infringe a prior patent. One of the sewing-machine patents that infringed Howe brought over a million dollars a year to the owners.

HOW TO INTRODUCE INVENTIONS.

THE first requisite is to make the merits and importance of the improvement *publicly known*. This may be done in various ways: by advertisements in newspapers, by cards, circulars, pamphlets, etc., by local and traveling agents. Some persons appoint agents in each town or county, giving them a liberal portion of the net proceeds for the sale of rights, or of the receipts for machines sold.

One of the most comprehensive and powerful methods of bringing the merits of an invention before the public, is to have it noticed and engraved in THE SCIENTIFIC AMERICAN. This paper, published weekly, is seen by probably not less than three hundred thousand readers, who comprise all of the most intelligent persons of scientific and mechanical acquirements in the country. The fact of publication in THE SCIENTIFIC AMERICAN is a passport to their attention and favor. "Yes, that is a good invention. I have seen it illustrated in THE SCIENTIFIC AMERICAN, and understand its construction. I advise you to purchase the right." We suppose that more patents are sold upon such advice than by all other agencies and means put together.

The splendid engravings which adorn our paper are prepared by the most talented artists. We are always glad to illustrate new and useful inventions in THE SCIENTIFIC AMERICAN, and, owing to the interest which our readers take in such novelties, we make the expense to the patentee as low as possible—generally but very little above the actual cost to us. If any one will take the trouble to count the probable cost to him of printing and circulating, by mail, a mass of circulars containing an engraving and description of his invention, and then compare that cost with the insignificant figure he would have to pay us to get up the same cut and description, and *print and circulate fifty thousand copies thereof in* THE SCIENTIFIC AMERICAN, he will appreciate the marvelous economy offered by our journal. The circular plan would cost the patentee more for the *white paper alone*, than we (Munn & Co.) should charge for the entire job.

Please address MUNN & CO., 37 Park Row, N. Y. After publication, the engravings will be sent to the owner, who can then use them for other papers, circulars, etc.

IT PAYS! IT PAYS! WHAT PAYS?

READ and see. Every business man admits the necessity of advertising. All who have tried it know the advantages and profit of so doing. But it is not all who advertise that do it advantageously. It is the best economy to advertise what one has to sell or wishes to purchase, in papers having the largest circulation among that class of persons likely to be interested in the article. Parties having Manufacturing Establishments to sell or lease, or who wish estimates made for Constructing Bridges, Dams, Iron Buildings, Furnaces, Heating Apparatus, Steam Engines, Boilers, Wood and Iron Working Machinery, Agricultural Implements, or Contracts for Engineering Works of all kinds, will find that it pays to advertise in THE SCIENTIFIC AMERICAN.

The value of THE SCIENTIFIC AMERICAN as an advertising medium cannot be overestimated. It goes into all the machine and workshops in the country, and is taken at the principal libraries and reading-rooms in the United States and Europe.

A business man wants something more than to see his advertisement in a printed newspaper. He wants circulation. And this he surely gets in THE SCIENTIFIC AMERICAN, for its regular weekly edition is nearly 50,000 copies.

If anything is wanted in the mechanical line, advertise for it in THE SCIENTIFIC AMERICAN. If one has a patent or machinery to sell, advertise in THE SCIENTIFIC AMERICAN.

RISE AND PROGRESS OF TRADE-MARKS.

"EXAMPLES of the practice of using marks to show the workmanship of various manufactures have been discovered at Herculaneum, such signs having been in vogue among bakers and others. In modern times similar tokens have been adopted in textile and various other fabrics, though the earliest extant are those of paper. After the invention of paper (15th century) from pulp of linen rags, water-marks were introduced into the fabric, doubtless to show the manufactory from which the paper was issued. The process has since become general, and the trade-mark a recognized part of the system of commerce, by which a

guarantee is given to the purchaser and a legitimate protection afforded to the manufacturer. The legislation of 1862 is a step in the right direction, and has already done service to trade and morality. It is upon the uniform good quality of manufactured commodities that any foreign trade depends for its continuance, and the obligation of the legislature to secure the purchasing public from fraud, whether the purchaser be at home or foreign consumer, is more and more stringent when the quality of the object cannot be readily detected by ocular inspection."

The above, from so good authority as the London *Stationer*, applies with equal force to our manufacturers. There are some things in which the slow Britishers excel the more rapid Yankee. In the matter of securing trade-mark protection on their products, and the extent of advertising their goods, they are far ahead of our people. By the new law of Congress, all persons who do business may register their *Trade-Marks*, whether new or old, for 28 years. See page 16.

WILL IT PAY? DOES IT INFRINGE?

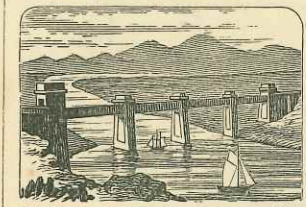
WE receive many inquiries like the above, and will here give a few hints in reply. But all who desire more full information should supply themselves with a copy of our REFERENCE BOOK FOR INVENTORS AND MECHANICS, noticed on page 24.

Will my invention pay? What is it worth? Who will buy? As a general rule, every patentable improvement will more than repay the small cost of taking out the patent. The sale of a single machine, or of a single right of use, will often bring back more than the whole outlay for the patent. But if a patent is not obtained, no one will buy. Therefore the first thing to be considered, the first step to be taken, is to *obtain the Patent.*

Does it infringe? Does it conflict with B's patent? If you will guarantee that it does not infringe, I will apply for a patent, etc. To which we reply: It is *not an infringement* to take out or hold a patent for an improvement upon any other patent. It is not an infringement to sell rights under any patent, whether town, county or state rights, or licenses. The actual manufacture, sale, or use of an *article* may infringe; but the sale or purchase of *patent rights is not infringement.*

FOREIGN PATENTS.

SPLENDID OPPORTUNITIES FOR AMERICANS IN OTHER COUNTRIES.



THE patent laws of various foreign countries are highly favorable to American inventors, and in hundreds of cases our enterprising countrymen have reaped rich rewards from patents taken abroad.

If the home patent is likely to become valuable here the foreign patent will in most cases be of equal value. In fact such is the prestige and fame for ingenuity which Americans enjoy in Europe that many millions of dollars are now invested there in the manufacture of American devices. Throughout all Europe there is a large and increasing demand for American inventions, and those of our ingenious countrymen who neglect to secure Foreign Patents, if their improvements are good, simply throw away golden opportunities.

The expenses of procuring patents in Europe have been *greatly reduced*, so that the obstacle of cost no longer stands seriously in the way of the American patentee. If, however, he is unable to meet the expense, he should find a reliable partner who will pay the costs and share the profits. Partnerships of this kind have in many cases proved highly profitable to all concerned. Arrangements with one partner for England, with another for France, and so on, might prove advantageous.

CANADA.

THE expense to apply for a Canadian Patent is fifty dollars ($50), which includes Government tax, agency, and all charges for five years, after which two additional terms of five years each may be obtained on payment of fifty dollars each—in all fifteen years. The patent may be applied for at the outset for fifteen years, at a cost of one hundred dollars. Inventions that have been already pat-

ented in the United States for not more than one year may be secured in Canada by the inventor, who must sign the papers. If patented for more than one year in the United States, the Canadian patent is refused.

In order to apply for a patent in Canada, please send to us (Munn & Co.) a description and drawing of the invention, and remit $50 in full. If already patented in the United States, a copy of the patent should be supplied. We will then immediately prepare the documents and forward them to the applicant for his signature. His personal presence is unnecessary. All the business can be promptly done by correspondence. The patent is granted in full without a model, but before the document is actually delivered a small model must be furnished, like the United States model. Caveats may be filed in Canada for $25, which includes all expenses.

GREAT BRITAIN.

THE British Patent extends over England, Wales, Scotland, Ireland and the Channel Islands; but not the Colonies; the latter make their own patent laws.

The expense to apply for an English patent is seventy-five dollars ($75), which includes Government taxes, agency, and all charges for the first period, or provisional patent for six months. No models. The patent issues to the first applicant, whether he be the inventor or merely the introducer.

A second installment of $175 is payable in New-York, 3½ months after the date of the provisional patent. The patent is then completed, and the great seal attached. The next tax is payable in 3 years. The patent is granted for fourteen years in all.

The Government makes no examinations as to novelty, but grants a patent to every petitioner; but such patent will not be sustained by the courts, if, before its date, the invention had been previously patented in England, or become publicly known there.

Great Britain has a population of *forty millions*, and is at present the principal financial, commercial and manufacturing center of the world. British-made goods are carried to every quarter of the globe, and go, duty free, into all her Colonies, whose aggregate census exceeds *two*

hundred millions of people. The importance to our citizens, of securing English patents for their new inventions, cannot be overrated.

FRANCE AND BELGIUM.

THE cost to apply for a French Patent is seventy-five dollars ($75), which covers all expenses, including agency and Government taxes for the first year. When the patent arrives in New-York a second installment of $25 is payable, making in all one hundred dollars. No official examination is made; no model. The longest term of the patent is fifteen years; subject to a small annual tax.

The expense to apply for a Belgian Patent is seventy-five dollars ($75). The law and proceedings are substantially the same as in France. When the patent arrives in New-York, $25 more are payable, the whole cost being one hundred dollars.

PRUSSIA AND OTHER COUNTRIES.

IN the following countries the cost of applying for the patent varies with the period of the grant, which may generally be from five to fifteen years, at the option of the applicant. The costs to apply for a patent for the shortest term are: in Prussia, $100; Austria, $100; twenty-seven other German States, each, $100; Norway, $100; Sweden, $100; Denmark, $100; Italy, $100; Russia, $300; Spain, $400; Portugal, $400. No patents granted in Switzerland and Netherlands.

Patents are also granted in the British Colonies, and several of the South American States.

N. B.—We would remind all who desire to take Foreign Patents, that (1) we do the business as low as anybody; (2) we have had over thirty years' experience; (3) the Foreign Patent, when issued, is *noticed without charge* in the SCIENTIFIC AMERICAN, which has a large circulation in Europe. This publication is often copied into other papers, and invariably assists the introduction and sale of the patent.

We furnish *free*, a pamphlet containing additional particulars, and shall be happy to give any other information that may be desired. Address MUNN & CO., Solicitors of American and Foreign Patents, 37 Park Row, New-York.

WHAT TWENTY-FIVE CENTS WILL BUY.

ONE of the most convenient and valuable publications ever published is our "REFERENCE BOOK FOR INVENTORS AND MECHANICS." It consists of a neat little bound volume of 125 pages, illustrated with engravings, and filled with valuable information, arranged in concise form.

Among its contents are the forms for Assignments of Patents, forms for Licenses, Shop-rights, State or County rights, for the whole transfer of a patent, or for a partial transfer. Also forms for Applications for Patents, for Re-issues, Caveats, etc.

It also contains the COMPLETE PATENT LAWS OF THE UNITED STATES, with full directions how to obtain patents for inventions. Design Patents, Trade-marks, Caveats, Copyrights, etc. Forms for Assignments of Patents, Licenses, etc. Instructions how to obtain Re-issues and Extensions of Patents. Useful instructions and information concerning the value and sale of Patents. The law and practice in regard to infringements. Directions about drawings. Official rules for proceedings at the Patent Office. Table of official fees for Patents, Caveats, etc.

In addition to the foregoing the book also contains THE COMPLETE CENSUS OF THE UNITED STATES AND TERRITORIES, by Counties. Also the Census by States, Areas of the several States in square miles; also Census of all towns of more than 10,000 inhabitants.

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A more valuable compilation of rare and useful information, for so small a price, has seldom been published. Sent by mail, prepaid, to any address, on receipt of 25 cents. A liberal discount to the trade.

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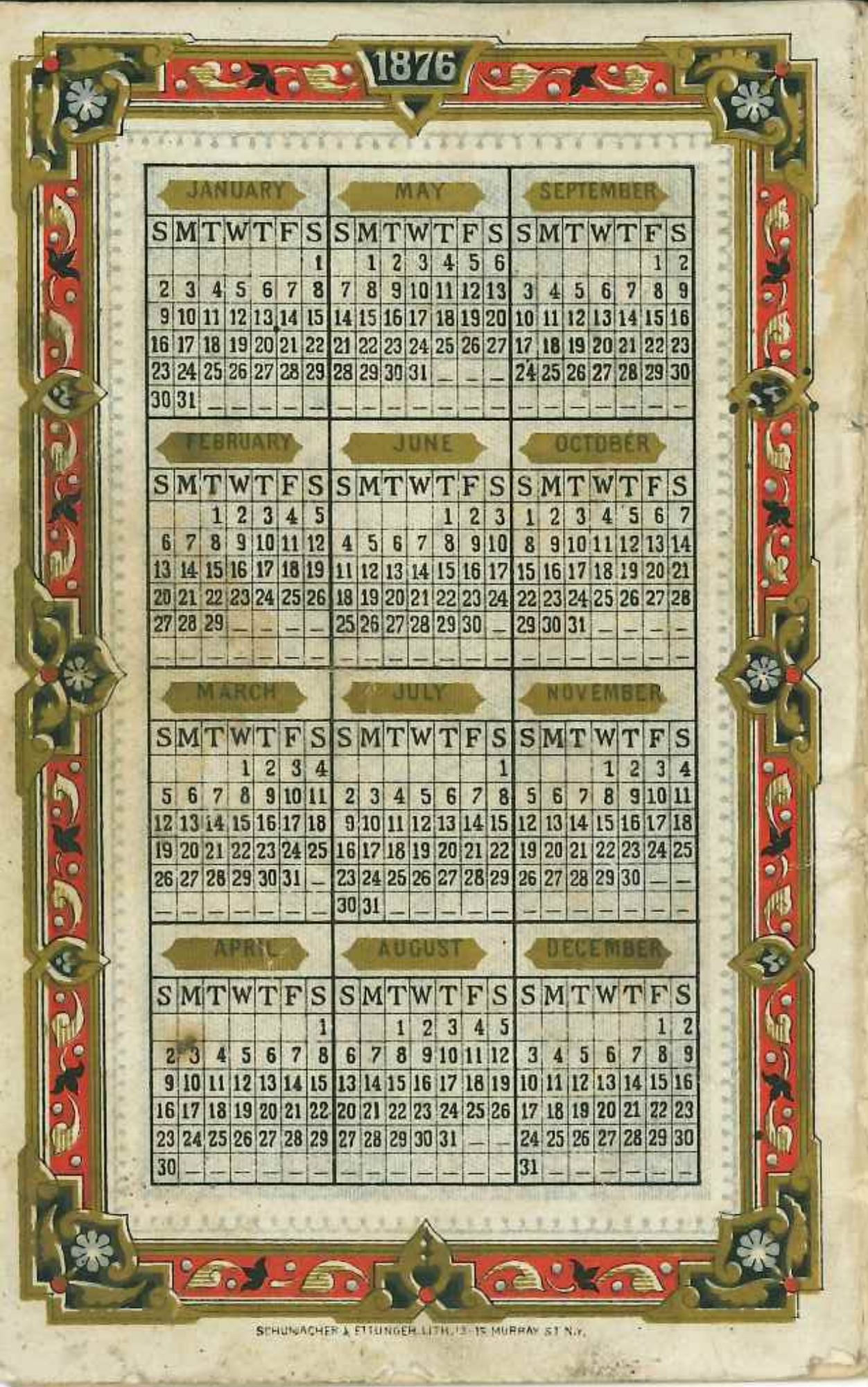

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